

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

BRITISH TELECOMMUNICATIONS PLC,

Plaintiff,

v.

IAC/INTERACTIVECORP, MATCH
GROUP, INC., MATCH GROUP, LLC, and
VIMEO, INC.,

Defendants.

§
§
§
§
§
§
§
§
§
§

Civil Action No. 18-366-WCB

CLAIM CONSTRUCTION OPINION AND ORDER

Plaintiff British Telecommunications PLC (“British Telecom”) owns U.S. Patent No. 7,243,105 (“the ’105 patent”). British Telecom has asserted claims 1, 6, 7, and 10 of the ’105 patent against defendants Match Group, Inc., Match Group LLC, and IAC/InterActiveCorp (collectively, “Match” or “the Match defendants”).¹ The parties briefed issues of claim

¹ The first amended complaint alleged that the Match defendants infringed two patents owned by the British Telecom in addition to the ’105 patent. The other patents asserted against the Match defendants were U.S. Patent Nos. 6,397,040 and 9,177,297. As part of the same action, the complaint accused a separate group of defendants, consisting of IAC/InterActiveCorp and Vimeo, Inc. (“the Vimeo defendants”) of infringing three patents owned by British Telecom: U.S. Patent Nos. 6,240,450; 6,578,079, and 7,974,200 (“the ’200 patent”). On February 4, 2019, the Court granted the defendants’ motions to dismiss with respect to four of the patents at issue: U.S. Patent Nos. 6,240,450; 6,397,040; 6,578,079; and 9,177,297. *See* Dkt. No. 61.

The Court subsequently issued an order severing the case against the Match defendants from the case against the Vimeo defendants for purposes of trial, but continuing to treat the cases as consolidated for purposes of pretrial proceedings. Dkt. No. 96. At the same time, the Court granted British Telecom’s motion to sever Count II of the first amended complaint and to enter final judgment on that claim so that British Telecom could take an immediate appeal from the disposition of that claim, which involved U.S. Patent No. 6,397,040. Dkt. No. 97; *see* Dkt. No. 98. British Telecom noticed an appeal from the dismissal of that claim, Dkt. No. 104, and that appeal is now pending before the Federal Circuit as No. 19-1917 (Fed. Cir. docketed May 24, 2019).

construction, *see* Dkt. Nos. 115, 120, 122, and 123, and on August 30, 2019, the Court held a hearing to address the issues raised in the briefs. This order sets out the Court’s construction of the disputed claim terms identified by the parties.

BACKGROUND

British Telecom alleges that Match has infringed, and continues to infringe, at least one claim of the ’105 patent. *See* Dkt. No. 17-1, Exh. J. In addressing the defendants’ motion to dismiss the claims relating to the ’105 patent, the Court provided background information on the patent. The pertinent portion of that discussion is reproduced below.

The ’105 patent is directed to “a method and apparatus for updating user profiles based upon personalized reasoning about user activity.” ’105 patent, col. 1, ll. 9–11. The invention employs an “inference engine” that infers and outputs updates to a user profile according to a first set of rules and event statistics. *Id.* at col. 4, ll. 35–60. The first set of rules is weighted according to a set of personalized rule weightings, which are generated according to a second set of rules and user preference data. *Id.* at col. 5, ll. 8–34. According to the inventors, this two-rule method for updating user profiles was an improvement over prior art systems, which updated user profiles, but “offer[ed] little in the way of user control and personalization of the profile update process itself.” *Id.* at col. 2, ll. 23–24.

Separately, on September 27, 2019, the Court stayed the action against the Vimeo defendants involving the ’200 patent in light of the decision of the Patent Trial and Appeal Board to institute *inter partes* review of various claims of that patent. Accordingly, the only portion of the original action that is going forward before the Court at this time is the action against the Match defendants for infringement of the ’105 patent. The claim construction proceedings in this case were initially addressed to both the ’105 patent and the ’200 patent, but the Court’s claim construction of the ’200 patent has been stayed as part of the stay granted pending the *inter partes* review of that patent by the Patent Trial and Appeal Board.

CONSTRUCTION OF DISPUTED TERMS

Independent claim 1 of the '105 patent recites as follows:

An apparatus for use in updating a user profile, the user profile being suitable for use in providing customized services to a respective user, the apparatus comprising:

- [i] an input for receiving event statistics relating to a user's activity;
- [ii] a first rule store for storing a first set of rules;
- [iii] an inference engine for in[f]erring updates to a user profile for the user according to said first set of rules using event statistics received at said input;
- [iv] a store for storing user preference data;
- [v] a second rule store for storing a second set of rules;
- [vi] adjustment means for adjusting said personalized rule weightings according to said second set of rules and with reference to said stored user preference data; and
- [vii] wherein said inference engine is arranged to use said personalized rule weightings in the application of said first set of rules to the inference of profile updates and thereby to determine and output a set of at least one update to the user profile.

Dependent claim 6 adds that the user preference data comprises "one or more data elements stored with the user profile," and dependent claim 7 adds that "the user profile comprises "a plurality of terms and attributes," and "said profile updates output by said inference engine comprise adjustments to said attributes."

Independent claim 10 recites as follows:

A method of updating a user profile, the user profile being suitable for use in providing customized services to a respective user, the method comprising:

- (i) storing a first set of rules;
- (ii) generating a set of personalized rule weightings according to a second set of rules and with reference to a set of user preference data;
- (iii) receiving event statistics relating to a user's activity; and
- (iv) applying an inference engine to infer and output at least one update to a profile for the user according to said first set of rules weighted according to said generated set of personalized rule weightings, using said received event statistics.

1. “user profile”

British Telecom argues that the meaning of the term “user profile” in each of the asserted claims is “[i]nformation associated with a user enabling an application program to provide personalized services to that user.” Match argues that the meaning of the term is “[a] user-specific data structure that stores information including user interest(s) relating to a service.”

British Telecom draws its proposed construction from the specification, which states: “A user profile of the preferred structure may represent an individual user or a designated group of users. In each case, the user profile provides personal information enabling application programs to provide personalized services to that user or group of users.” ’105 patent, col. 6, ll. 34–38. British Telecom takes issue with the portion of Match’s proposed construction requiring that the user profile be “a user-specific data structure.” According to British Telecom, “[n]either the claims nor the specification require any ‘data structure,’ much less a ‘user-specific data structure.’” Dkt. No. 122, at 1. Instead, British Telecom contends that information “can be stored in any manner as long as the data can be associated with a user to provide personalized services.” *Id.* at 2.

Match states that its construction “applies the term’s plain, ordinary meaning to the context developed by the claim language.” Dkt. No. 120, at 7. According to Match, one feature of a user profile is that it can be updated. That feature, Match argues, indicates that the user profile is “stored persistently.” *Id.* Match also argues that construing the term user profile as a “data structure” is “fully consistent with the specification’s teachings that the user profile is stored in a database 220 and has a structure (shown in FIG. 5).” *Id.* at 8. Match believes that defining user profiles as data structures that store information about users “comports with the ordinary meaning of user profiles” and “properly distinguishes the significance of the user profile from other user-specific

information recited elsewhere in the claims.” *Id.* at 7. Lastly, Match argues that, compared to its proposed definition, British Telecom’s definition is “overbroad.” *Id.* at 8.

The Court finds that the term “user profile,” as used throughout the claims and specification, has both structural and storage-related features. Independent claims 1 and 10 provide little guidance regarding the meaning of “user profile.” Those claims merely explain that the user profile must be “suitable for use in providing customized services to a respective user” and must be updatable by the inference engine. Dependent claims 6 and 8, however, are more helpful. Claim 6 recites an apparatus in which the “user preference data comprise one or more data elements stored with the user profile.” ’105 patent, col. 15, ll. 8–10. Similarly, claim 8 recites an apparatus in which profile updates generated by the inference engine “comprise adjustments to data elements of said user preference data stored within the user profile.” *Id.*, col 15, ll. 17–19. Together, those claims suggest that user profiles are designed to store “data elements” that contain information about a user.

With regard to the user profile’s storage-related features, the specification clearly states that data and attributes are “stored in a user profile.” *Id.*, Abstract; *see id.*, col. 5, ll. 35–38 (“While user preference data **245** are shown in FIG. 2 to be stored separately from user profiles **220**, certain user preference data may in practice be stored as part of the respective user’s profile **220**.”). That data, according to the specification, is stored as a collection of data elements. *See id.*, col. 4, ll. 52–58 (“The fuzzy inference engine **200** is arranged . . . to use [fuzzy rules and fuzzy sets] to infer from the received event statistics **205** possible updates to data elements of a user profile **220** for the user”); col. 6, line 26 through col. 7, line 35 (preferred embodiments of “User Profile Structure”); col. 7, ll. 51–53 (“Referring to FIG. 6, a fuzzy inference module **600** is arranged to generate updates to data elements of a user profile stored in a user profile store **605**”); FIGS. 2, 5,

6. The specification explains that the purpose of those elements is to “represent an individual user or a group of users,” *id.*, col. 6, ll. 34–35, and to “provide[] personal information enabling application programs to provided [sic: provide] personalized services to that user or group of users.” *Id.*, col. 6, ll. 34–38.

Accordingly, the Court construes the term “**user profile**” to mean “**stored data elements associated with a user.**”

2. “**user preference data**”

British Telecom argues that the term “user preference data” in each of the asserted claims means “[d]ata that comprises any data used to personalize a part of the profile update process for generating updates to the user profile.” Match argues that the term means “[d]ata that includes user-specified preference settings relating to the profile update process.”

British Telecom bases its construction on the characterization of “user preference data” in the specification: “User preference data **245** may comprise any data used within preferred embodiments of the present invention to personalize a part of the preferred profile update preference process for generating updates to the user profile.” Dkt. No. 115, at 4 (citing ’105 patent, col. 5, ll. 24–28). British Telecom argues that Match’s “attempt to limit this term to the user’s own preference settings lacks any support in the specification or the claims.” Dkt. No. 115, at 4.

Match states that its proposal “fits the term’s plain meaning and the specification’s teachings.” Dkt. No. 120, at 9. The claims, according to Match, refer to the term “user preference data,” rather than the more general term, “data.” Match argues that “[b]y referring to user preference data, the claims demonstrate that such data are user-specified preference

settings.” *Id.* Furthermore, Match believes that British Telecom’s construction is overbroad, in that it would include data that does not represent user-specified preferences.

The Court agrees with British Telecom. The specification refers to “user preference data” as data that comprises “any data used . . . to personalize a part of the . . . profile update inference process for generating updates to the user profile.” ’105 patent, col. 5, ll. 24–28. That data does not need to be user-specified. As the specification explains, user preference data can “be stored as part of a respective user’s profile . . . and hence be subject to adjustment through profile updates” output by the inference engine. *Id.*, col. 5, ll. 36–41. Those profile updates are driven, in part, by event statistics, which relate to a user’s activity, and are not necessarily user-specified. *See id.*, col. 4, ll. 42–48 (“Received event statistics **205** may comprise, for a particular category of interest, the number of documents accessed in a given unit time relating to that interest, the number of people identified or contacted relating to that interest, application programs used in relation to that interest . . .”).

Accordingly, the Court construes the term **“user preference data”** to mean **“data reflecting user preferences that is used to personalize a part of the process for updating the user profile.”**

3. “personalized rule weightings”

British Telecom argues that the term “personalized rule weightings” in each of the asserted claims means “[t]he strength of contribution of a rule associated with updating a user profile.” Match argues that the term means “[u]ser-specific values that define relative importance among the first set of rules.”

According to British Telecom, its construction follows directly from the specification, which defines “personalized rule weightings,” as “weights which . . . affect the strength of

contribution of associated rules, ranging from full contribution to no contribution.” Dkt. No. 115, at 5 (citing ’105 patent, col. 3, ll. 2–4). British Telecom adds that its construction is supported by the prosecution history. Dkt. No. 115, at 5 (citing Dkt. No. 113, Tab A2, at 3–4). British Telecom takes issue with two aspects of Match’s construction. First, British Telecom argues that personalized rule weightings should not be limited to “user-specific values.” That is because personalized rule weightings “can, and often are, adjusted based on particular events and/or data.” Dkt. No. 115, at 5. Requiring values to be “user-specific,” according to British Telecom, is also “contrary to disclosed embodiments which explain that rule weights may be applied and personalized” with respect to a user or group of users. *Id.* (citing ’105 patent, col. 5, ll. 31–34).

Match argues that its proposed construction of “personalized rule weightings” properly distinguishes personalized rule weightings, which “reflect *relative importance of first rules . . .* when updating profiles,” from other types of disclosed weightings called profile weights, which “reflect importance of individual user interests when customizing services for a user.” *Id.* at 11. Additionally, Match criticizes British Telecom’s second argument that the term should not be limited to the first set of rules. According to Match, British Telecom’s argument contradicts express language contained in claims 1 and 10.

The Court finds that the claims and the specification are clear with regard to how “personalized rule weightings” are adjusted (claim 1) or generated (claim 10) and how they are applied. Claims 1 and 10 state that personalized rule weightings are adjusted or generated “according to [a] second set of rules and with reference to . . . user preference data.” ’105 patent, col. 14, ll. 50–51; col. 16, ll. 10–11. Similarly, those claims state that personalized rule weightings are used in the application of the first set of rules to update user profiles. *See* ’105 patent, claims 1, 10. The specification echoes those same features. According to the specification, personalized

rule weightings can be “derived and output . . . based upon user preferences . . . and a set of meta-rules” to achieve selective application, or biasing, of the first set of rules. *Id.*, col. 13, ll. 10–14. The specification explains that to achieve selective application, or biasing, of these rules, rule weights are combined with rule consequences (the output of the first set of rules) in an “arbitrary function.” *See id.*, col. 12, ll. 7–9. The rule weight can be a “value” ranging from 0 (no contribution of the rule) to 1 (full contribution of the rule), or other values in between. *See id.*, col. 12, ll. 12–15.

In light of the claims and the specification, the Court concludes that the term “**personalized rule weightings**” should be construed to mean “**weights that are derived from the user preference data and are applied to the output of the first set of rules.**”

4. “set of rules,” “first set of rules,” and “second set of rules”

British Telecom argues that no construction is necessary for these phrases, which appear in each of the asserted claims, because the meaning of the phrases is clear. If construction is needed, British Telecom argues, the phrases should be construed to mean “set of instructions,” “first set of instructions,” and “second set of instructions.”

Match proposes that the phrase “set of rules” should be construed to mean “a data structure that stores a plurality of rules, each defining a condition that input data must meet for the rule to apply, and a consequence that occurs if the condition is met.” For “first set of rules,” Match proposes the following construction: “A set of rules used to generate profile updates.” And for “second set of rules, Match proposes the following construction: “A set of rules used to adjust [claim 1]/generate [claim 10] personalized rule weightings.”

Match’s proposed constructions of the three related phrases have several problems. First, the proposed constructions include the term “rules” in the definition of the term “rules” itself.

Thus, “set of rules” is defined as a “data structure that stores a plurality of rules”; “first set of rules” is defined as “a set of rules used to generate updates”; and “second set of rules” is defined as “a set of rules used to adjust/generate personalized rule weightings.”

Second, Match’s proposal defines the phrase “set of rules” as “a data structure that stores a plurality of rules,” which adds unnecessary complexity to the phrase. Claim 1 provides that the rules are stored within the claimed apparatus (“a first rule store for storing a first set of rules”; and “a second rule store for storing a second set of rules”). It is both unnecessary and potentially confusing to a jury to introduce the term “data structure” in place of the claim term “store.” The term “data structure” is not likely to be helpful to a jury in that context.

Third, while claim 1 states that the rules are stored in a “rule store,” that is not part of the definition of the term “rule” or “set of rules,” but instead is a feature of the apparatus recited in claim 1; that is, the apparatus contains a “rule store” in which the two sets of rules are stored. Claim 10 refers to a method that includes the step of “storing a first set of rules,” without referring to where or how the rules are stored.

Rather than adopt the complex formulation proposed by Match, the Court finds that the terms “set of rules,” “first set of rules,” and “second set of rules” are readily comprehensible without the need for construction. If construction is ultimately deemed necessary, the “rules” can accurately be defined as “instructions.”

5. “inference engine”

British Telecom argues that no construction is necessary for the term “inference engine,” which appears in each of the asserted claims. If any construction is necessary, British Telecom proposes construing the term to mean a “software engine that draws conclusions from rules and situational facts.” However, in the event the Court determines that the term requires construction

as a means-plus-function term under 35 U.S.C. § 112 ¶ 6, British Telecom proposes the following construction:

For claim 1: “a software program ‘for in[f]erring updates to a user profile for the user according to said first set of rules using event statistics received at said input . . . [and] arranged to use said personalized rule weightings in the application of said first set of rules to the inference of profile updates and thereby to determine and output a set of at least one update to the user profile.’”

For claim 10: “a software program ‘infer and output at least one update to a profile for the user according to said first set of rules weighted according to said generated set of personalized rule weightings, using said received event statistics.’”

Dkt. No. 110-1, at A12–13. For both claims 1 and 10, British Telecom argues that “the structure includes the software using algorithms disclosed in the specification and equivalents.” *Id.* at A13.

Match responds that the term “inference engine” should be construed as a means-plus-function term under 35 U.S.C. § 112 ¶ 6. According to Match, the recited function is “[i]nfering and outputting at least one update to a profile for the user according to the first set of rules, which are weighted according to the generated set of personalized rule weightings, using the received event statistics.” *Id.* at A12. The recited structure, according to Match, is a “[f]uzzy inference engine comprising [1] an approximate reasoning program arranged to process input parameters and [2] a fuzzy inference program arranged to apply fuzzy rules.” *Id.* at A12–13.

British Telecom argues that if the Court believes construction is required, British Telecom’s proposed construction—a “software engine that draws conclusions from rules and situational facts”—is supported by the claims, specification, prosecution history, and relevant technical extrinsic evidence. Dkt. No. 115, at 6–7. According to British Telecom, the claims describe the inference engine as “in[f]erring updates to a user profile for the user,” ’105 patent, claim 1, and as something that could “infer and output at least one update to a profile for the user,”

id., claim 10. British Telecom relies on similar descriptions in the specification, *see* Dkt. No. 115, at 6–7 (citing ’105 patent, col. 1, ll. 58–64; col. 3, ll. 13–22), and the prosecution history, *see* Dkt. No. 115, at 7 (Dkt. No. 111, Exh. 3, at 3–4). British Telecom also finds support in the Institute of Electrical and Electronics Engineers technical dictionary, which defines an “inference engine” as “[a] software engine within an expert system that draws conclusions from rules and situational facts.” *The IEEE Standard Dictionary of Electrical and Electronics Terms* 520 (6th ed. 1997). British Telecom argues that “[b]ecause the structure of an inference engine is clear from the intrinsic and extrinsic evidence, and the claim term itself is not written in means-plus-function language, this term does not require a means-plus-function analysis.” Dkt. No. 115, at 7.

British Telecom contends that if the Court finds that means-plus-function analysis is required, Match’s analysis as to the function of the inference engine should be adopted, but not its analysis as to the structure of that device. *See* Dkt. No. 115, at 8. According to British Telecom, Match’s proposed structure “attempts to import a preferred embodiment into an affirmative claim limitation and is clearly improper.” *Id.* British Telecom argues that, under the doctrine of claim differentiation, an inference engine, as recited in independent claim 1, must differ from a “fuzzy” inference engine, as recited in dependent claims 4 and 5. *See id.* at 7. British Telecom contends that claim differentiation is supported by the specification, which “makes clear that a fuzzy inference engine is just a preferred embodiment of an inference engine.” *Id.* at 8 (citing ’105 patent, col. 4, ll. 38–39).

In response, Match argues that the claims employ the classic structure of 35 U.S.C. § 112 ¶ 6. According to Match, “the term recites a means—an ‘inference engine’—by its function: inferring and outputting profile updates according to first rules, personalized rule weightings, and event statistics.” Dkt. No. 120, at 15. Match argues that technical dictionaries also define the term

“inference engine” by the function it performs. *Id.* As for the recited structure, Match argues that “fuzzy processing represents the only disclosed algorithms by which the inference engine operates.” *Id.* at 16 (citing ’105 patent, col. 3, ll. 13–22; col. 4, ll. 38–41; col. 4, ll. 53–58). Match finds British Telecom’s claim differentiation argument inapplicable in settings such as this one, where applying the doctrine of claim differentiation would result in broadening a means-plus-function limitation beyond structures disclosed in the specification. *See* Dkt. No. 120, at 17.

The Court begins its analysis with the rebuttable presumption that 35 U.S.C. § 112 ¶ 6 does not apply where a claim fails to use the word “means.” *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015). In this instance, the Court finds that Match has failed to rebut that presumption.

Technical dictionaries consistently define an inference engine as a software program that draws inferences or conclusions from facts and rules. *See* Dkt. No. 111, at 46; Dkt. No. 113, at 197, 204, 213, 225. In his declaration, Match’s expert, Dr. Jaime Carbonell, similarly defined an inference engine as “a computer program that interprets knowledge represented in a knowledge base, such [as] a rule store, and controls application of that knowledge.” Dkt. No. 113, Tab A17, at 15. Dr. Carbonell explained that an inference engine operates in three steps: first, the inference engine selects rules from a rule set; then, the inference engine evaluates the selected rules against the input data, determines which rules are applicable, and places those rules in a “conflict set”; last, the inference engine selects rule(s) to fire from the conflict set. *Id.* at 15–16.

The specification and the claims use the term “inference engine” in a manner consistent with the ordinary meaning of the term. *See Apex Inc. v. Raritan Comput., Inc.*, 325 F.3d 1364, 1373 (Fed. Cir. 2003). The specification describes an inference engine as a computer program that infers updates according to rules and sets based on inputted information (i.e., event statistics). *See*,

e.g., '105 patent, col. 1, ll. 58–61; col. 4, line 38, through col. 5, line 46 (describing a preferred embodiment of an inference engine); col. 5, line 49, through col. 6, line 24 (describing the computing environment of the present invention). Similarly, the claims recite an inference engine that infers updates according to rules using event statistics. *See id.*, claim 1 (“an inference engine for in[f]erring updates to a user profile for the user according to said first set of rules using event statistics received at said input”); claim 10 (“an inference engine to infer and output at least one update to a profile for the user according to said first set of rules weighted according to said generated set of personalized rule weightings, using said received event statistics”). In light of the intrinsic and extrinsic evidence, it is therefore clear that the term “inference engine” is commonly used and well understood by persons in the art to describe a sufficiently definite structure. *See Apex*, 325 F.3d at 1372–73.

As for Match’s attempt to limit the term “inference engine” to the “fuzzy inference engine” embodiment, such a limitation would be improper. Claim 1 recites an “inference engine,” while claims 4 and 5 recite an “inference engine [that] is a fuzzy inference engine.” The doctrine of claim differentiation supports the conclusion that the terms “inference engine” and “fuzzy inference engine” have different meanings. Match cites *Saffran v. Johnson & Johnson*, 712 F.3d 549, 563 (Fed. Cir. 2013), for the proposition that claim differentiation “does not justify broadening a means-plus-function limitation beyond structures disclosed in a specification.” Dkt. No. 120, at 17. Yet that principle is inapplicable in this case for two reasons. First, the term “inference engine” is not a means-plus-function limitation, so its construction is not limited to structures disclosed in the specification. Second, even if the Court were to construe the term as a means-plus-function limitation, the specification clearly discloses both the genus (an inference engine) and the species (a fuzzy inference engine). Accordingly, the doctrine of claim

differentiation suggests that the two terms should be construed to have different meanings. *See* '105 patent, col. 4, ll. 38–39 (“Referring to FIG. 2, an inference engine **200**, preferably a fuzzy inference engine . . .”).

Furthermore, the prosecution history supports construing the term “inference engine” more broadly than the term “fuzzy inference engine.” In a response to an office action, the applicants stated that “the fact that the [prior art] inference engine . . . is ‘fuzzy’ is neither here nor there” because the “independent claims do not require such.” Dkt. No. 111, Exh. 3, at 3–4 (emphasis in original). That statement implies that the applicants did not intend to limit the inference engine recited in the independent claims to a “fuzzy” inference engine.

Accordingly, the Court construes the term “**inference engine**” to mean “**a software program that draws inferences or conclusions by applying rules to information.**”

6. “adjustment means for adjusting said personalized rule weightings according to said second set of rules and with reference to said stored user preference data”

The term “adjustment means for adjusting said personalized rule weightings according to said second set of rules and with reference to said stored user preference data” appears in asserted claims 1, 6, and 7. The parties agree that the term is subject to 35 U.S.C. § 112 ¶ 6 analysis. British Telecom argues that the limitation should be construed to mean “[a] computer system comprising computer program instructions, wherein the instructions, when executed, cause the computer system to perform the steps of adjusting said personalized rule weightings according to said second set of rules and with reference to said stored user preference data.” The structure, according to British Telecom, “includes the algorithms disclosed in the specification and equivalents.” Match argues that the recited function is “[a]djusting the personalized rule weightings according to the second set of rules and with reference to the stored user preference data,” but that there is insufficient disclosure of the structure for performing that function. Therefore, according to

Match, the limitation is indefinite and renders the claims that include that limitation (claims 1, 6, and 7) invalid for indefiniteness.

The Federal Circuit has held that for computer-implemented inventions that are claimed in means-plus-function format, it is not sufficient to point to a general purpose computer as the disclosed structure without further identifying programming that converts the general purpose computer into a specific machine. One way to make an adequate disclosure of structure in that context, the court has held, is for the specification to describe an algorithm executed by the computer. *See Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008) (“[A] general purpose computer programmed to carry out a particular algorithm creates a ‘new machine’ because a general purpose computer ‘in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software.’”) (quoting *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1348 (Fed. Cir. 1999)); *see also Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339–40 (Fed. Cir. 2016); *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1352 (Fed. Cir. 2015); *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1312 (Fed. Cir. 2012).

British Telecom argues that the specification discloses sufficient structure to satisfy section 112, paragraph 6. It does so, according to British Telecom, because it “discloses the structure including a computer system comprising computer program instructions, and specific algorithms and instructions.” *Id.* (citing ’105 patent, col. 5, ll. 8–10; col. 9, ll. 8–10; col. 12, ll. 32–58; Fig. 2).

Match agrees that “the specification discloses generic computers that perform the recited functions.” Dkt. No. 120, at 18 (citing ’105 patent, FIGS. 3–4; col. 6, ll. 4–24; col. 7, ll. 36–40). However, according to Match, the portions of the specification relied on by British Telecom

fail to disclose any algorithm that “describes any technique that adjusts stored rule weights.” Dkt. No. 120, at 19.

Match makes four arguments in support of that contention. First, Match argues that the passage at column 5, lines 8 through 10, of the specification—“The apparatus of FIG. 2 further comprises a store . . . of so-called meta rules . . . for use in adjusting a set of rule weights”—lacks limiting structural disclosure, and describes the adjustment function in purely functional terms. *See id.* at 18. Second, Match argues that Figure 2 shows a database for storing, but not adjusting, rule weights. *Id.* at 18–19. Third, Match argues that the passage at column 9, lines 8 through 10, of the specification refers to adjusting personalized parameters, and that personalized parameters are “distinct and different from stored rule weights.” *Id.* at 19. Fourth, Match argues that the passage at column 12, lines 32 through 58, of the specification describes only the process for setting personalized rule weights, not the process for adjusting them. *See id.* For those reasons, Match contends that the limitation fails to define the structure required by section 112, paragraph 6 and is therefore indefinite.

In its reply, British Telecom argues that the specification clearly provides an exemplary two-stage algorithm structure for “adjusting” rule weights. Dkt. No. 122, at 12. Moreover, British Telecom argues that there is no meaningful distinction between “setting” personalized rule weights, on the one hand, and “adjusting” personalized rule weights, on the other. According to British Telecom, the two actions are not distinct because “setting” is a form of “adjusting.” *Id.*

The Court agrees with British Telecom that the passage in the specification at column 12, lines 32 through 58, discloses sufficient structure for performing the claimed “adjustment means” function to satisfy section 112, paragraph 6. That passage provides an exemplary two-stage algorithm for setting rule weights. At stage 1, the algorithm applies meta-rules, i.e., the second set

of rules, to user preference data in order to generate personalized parameters. ’105 patent, col. 12, ll. 36–38. At stage 2, the algorithm sets rule weights to an appropriate value between 0 and 1. Those rule weights are set such that, when the rule weights are combined with the output of the first set of rules, the rule weights adjust the output “according to the effect required by the . . . personalized parameters.” *Id.*, col. 12, ll. 38–56.

In addition to the generic explanation described above, the specification discloses a preferred implementation of the two-stage algorithm. At stage 1, the meta-rule “IF excludeImportance THEN blockImportanceFlag IS True” is applied to user preference data “excludeImportance” to generate the personalized parameter “blockImportanceFlag.” *Id.*, col. 12, ll. 32–38. At stage 2, depending on the value of the blockImportanceFlag set during stage one, rule weights may be set to either 0, to block the output of a first set of rules, or 1, to enable those rules to have full effect. *Id.*, col. 12, ll. 47–54.

As argued by British Telecom, the Court does not discern a meaningful distinction between “setting” and “adjusting” rule weights. The specification makes clear that the two-stage algorithm is driven by two variables—meta-rules and user preference data. A change to either variable, such as an update to user preference data, *see* ’105 patent, col. 9, ll. 59–60, would result in a re-setting (i.e., an adjustment) of rule weights using the same algorithm as above. Therefore, in this context, the Court considers a specification disclosure that describes “setting” rule weights as not being materially different from a specification disclosure that describes “adjusting” rule weights. *See* Dkt. No. 122, at 12.

Accordingly, the limitation “adjustment means for adjusting said personalized rule weightings according to said second set of rules and with reference to said stored user preference data” is subject to means-plus-function analysis. The recited function of the limitation is

“adjusting the personalized rule weightings according to the second set of rules and with reference to the stored user preference data,” and the recited structure of the limitation is **“a computer following process steps disclosed in the specification for adjusting the personalized rule weightings and equivalents.”**

7. “event statistics relating to a user’s activity”

British Telecom argues that this phrase, which appears in each of the asserted claims, should be defined to mean “data indicating a user’s activity.” Match advocates construing the term to mean “statistical data representing user activity.”

British Telecom contends that adding the term “statistical” to the definition is unduly limiting, as the specification refers to event statistics as including “any feedback by the user indicative of the relevance of particular events to that interest.” ’105 patent, col. 4, ll. 46–48. British Telecom also objects to the use of the term “statistical data,” which is not found anywhere in the ’105 patent. Match responds that to omit the term “statistics” in the construction of the term “event statistics” would be contrary to the plain meaning of the language of the claim, which incorporates the word “statistics.”

The term “statistical data” is not used in the patent, and the Court concludes that using that formulation, as Match urges, would not be helpful to the jury. Moreover, if that term were included in a claim construction given to the jury, it might need further definition. For those reasons, the Court rejects Match’s proposed construction of “event statistics relating to a user’s activity.” On the other hand, British Telecom’s definition, which omits the term “statistics” altogether, is not entirely faithful to the plain language of the phrase in question.

The use of the claim term “event statistics” implies that the data in question will typically be in statistical format. Several of the examples given in the specification reinforce that

implication. In particular, the specification states that “event statistics” may include “for a particular category of interest, the number of documents accessed in a given unit of time relating to that interest [and] the number of people identified or contacted relating to that interest.” ’105 patent, col. 4, ll. 42–45. Yet the specification also states that “event statistics” may comprise “application programs used in relation to [a particular category of interest] and any feedback by the user indicative of the relevance of particular events to that interest.” *Id.*, col. 4, ll. 45–48. Those latter examples suggest that “event statistics” may include qualitative information and need not always be presented in a strictly statistical format. Accordingly, the Court will define **“event statistics relating to a user’s activity”** to mean **“information, often in statistical form, reflecting user activity.”**

IT IS SO ORDERED.

SIGNED this 27th day of September, 2019.

A handwritten signature in black ink, reading "William C. Bryson". The signature is fluid and cursive, with the first name "William" and last name "Bryson" clearly distinguishable.

WILLIAM C. BRYSON
UNITED STATES CIRCUIT JUDGE